In Applicants' claimed method, the final heat treatment to obtain a coarse grain structure involves heating to and holding at a temperature of not less than the Ac_3 transformation point (austenitization heat treatment) and slow cooling at a rate of not more than a ferrite-forming critical rate.

However, when Ti is added to an ODS ferritic steel, there occurs a problem that Ti combines with C in the matrix to form a carbide. This results in the C concentration in the matrix decreasing and hence making it impossible to ensure a sufficient amount of α to γ transformation during austenitization heat treatment. When untransformed α-phase is retained (microstructure has dual phase), a coarse grain structure <u>cannot be formed by slow cooling</u>. Formation of a single phase of γ-phase is <u>important and essential for obtaining a coarse grain structure</u>. (See page 3, lines 1 to 26 of Applicants' specification.)

According to the method claimed in Applicants' claim 2, in order to prevent the Ti in steel from combining with C to form a carbide, and thus lower the C concentration in the matrix, an Fe_2O_3 powder, which is an unstable oxide, is additionally added as a raw material powder to be mixed at the mechanical alloying treatment, thereby increasing the excess oxygen content in steel. In this case, since the Ti combines with the excess oxygen in steel derived from Fe_2O_3 to form an oxide without combining with C to form carbide, it is possible to suppress a decrease in the C concentration in the matrix. The amount of the Fe_2O_3 powder to be mixed is determined so that an excess oxygen content in steel satisfies the predetermined conditional expression, as required by Applicants' claim 2. (See page 11, lines 1 to 17 of Applicants' specification.)

Okuda et al. relates to a dispersion strengthened ferritic steel having excellent ductility and toughness which has been heat treated to produce a matrix having a tempered martensitic structure. In the matrix, a predetermined amount of composite oxide particles comprising Y_2O_3 and TiO_2 is homogeneously dispersed. (See abstract of reference.) Such a tempered martensitic structure is a material having a toughness higher than that of ferritic steel and a relatively small grain size. (See column 3, line 66 to column 4, line 1 of reference.) The detailed heat treatment conducted in Okuda et al. is described in the Examples. (See column 6, line 38 to column 7, line 4 of reference.) Namely, powders of raw materials are mixed, the resulting mixture is subjected to

mechanical alloying treatment and hot extrusion to produce hot extruded rod which is then subjected to heat treatment involving normalization at 950 to 1200°C and tempering at 750 to 820°C.

The Examiner takes the position that Okuda et al. disclose a method of manufacturing an oxide dispersion strengthened ferritic steel excellent in high-temperature creep strength having a coarse grain structure, and that the extruded solidified material is subjected to final heat treatment involving heating to and holding at a temperature of not less than the Ac_3 transformation point and slow cooling at a rate of not more than a ferrite-forming critical rate. In fact, however, Okuda et al. do not teach or suggest the heat treatment required by Applicants' claim 2 (austenitization heat treatment + slow cooling heat treatment) or the production of the ODS ferritic steel excellent in high-temperature creep strength having a coarse grain structure.

Further, Okuda et al. do not teach or suggest the feature of Applicants' claim 2, that Fe_2O_3 powder is additionally added as a raw material powder to be mixed at the mechanical alloying treatment so that an excess oxygen content in the steel satisfies the predetermined condition expression.

The article on Novant Trionix discloses that transparent iron oxide pigments (Trade name "Trionix") are added to various coating materials, paints, printing inks, etc. to improve durability, weather fastness, transparency, etc. However, this article does not teach or suggest that the transparent iron oxide pigments "Trionix" may be used as a raw material of alloys to thereby improve high-temperature creep strength of ODS ferritic steel.

Since the article on Novant Trionix belongs to a technical field quite different from that of the Okuda et al., there is no motivation to use the transparent iron oxide pigments "Trionix" as a raw material for alloying the ODS steel of Okuda et al. MPEP 2141.01(a) states that in order to rely on a reference as a basis for rejection of Applicants' invention, the reference must either be in the field of Applicants' endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned. In this case, neither of the above is true, and thus the secondary reference should not be used in rejecting Applicants' claim.

Further, even by adding the iron oxide pigments "Trionix" to the composition of ODS ferritic steel of Okuda et al., the method claimed in claim 2 is not taught or suggested, since Okuda et al. do not teach or suggest the heat treatment (austenitization heat treatment + slow cooling heat treatment) to manufacture the ODS ferritic steel excellent in high-temperature creep strength having a coarse grain structure. The secondary reference does not remedy this deficiency of Okuda et al.

Therefore, the subject matter of claim 2 is clearly patentable over the cited combination of references.

In view of the above, it is submitted that the ground of rejection set forth by the Examiner has been overcome, and that the application is in condition for allowance. Such allowance is solicited.

Respectfully submitted,

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